



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

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CISD -07- 07(LDV/LDT/MDPV/HDV/HDE)

OFFICE OF  
AIR AND RADIATION

Dear Manufacturer:

SUBJECT: Certification Procedure for Light-Duty and Heavy-Duty Diesel Vehicles and Heavy-Duty Diesel Engines Using Selective Catalyst Reduction (SCR) Technologies

I. Background

On February 10, 2000, EPA published the Tier 2 emission standards for light-duty vehicles and trucks. These standards established common, "fuel neutral" emission requirements for gasoline and diesel vehicles. They also set common standards for all passenger cars, light trucks, and medium-duty passenger vehicles. The Tier 2 standards allow emission averaging and require new vehicles to meet an average NO<sub>x</sub> emission level of 0.07 grams per mile (g/mi). On January 18, 2001, EPA published a rule setting stringent new requirements for heavy-duty highway engines and vehicles starting in 2007. Manufacturers plan to meet these requirements by optimizing engine designs for low emissions and adding high-efficiency aftertreatment. The diesel engine NO<sub>x</sub> standard, which is phased-in between model years 2007 and 2010, is 0.20 grams per brake horsepower-hour (g/bhp-hr).

Diesel engine and vehicle manufacturers have examined the use of several different types of NO<sub>x</sub> reduction technologies in order to meet these requirements. One type of NO<sub>x</sub> reducing technology, selective catalyst reduction (SCR), is of particular interest to diesel manufacturers because it can achieve as high as 90% NO<sub>x</sub> conversion efficiencies. An SCR system uses a nitrogen containing reducing agent (usually ammonia or urea) injected into the exhaust gas upstream of the catalyst. The reducing agent needs to be periodically replenished. Without the reducing agent, the efficiency of the SCR catalyst drops to zero and NO<sub>x</sub> emissions can increase substantially.

The purpose of this letter is to discuss our intended approach for the certification of light-duty and heavy-duty diesel vehicles and heavy-duty diesel engines using SCR systems. The information in this letter reflects our current thinking. We recognize that SCR technology is still evolving and reserve the right to make any necessary changes to our approach for certification of light-duty and heavy-duty diesel vehicles and heavy-duty diesel engines using SCR systems that we deem appropriate. We also recognize that efforts currently underway by manufacturers, including infrastructure development, could help address some of the issues raised in this guidance prior to EPA's review of individual certifications.

















